In the Claims:

Please cancel claims 19-21 and 23-24, and amend claims 1, 8, 11-12, 15-16 and 25-26, 28-31 and 35 as shown in the following listing of claims.

1. (Currently Amended) A disk drive with a voice coil motor (VCM), and a spindle motor, the disk drive comprising:

a processor configured to determine spin-up parameters of the spindle motor based on a temperature of the VCM, the processor further being configured to send a signal to vary the spin-up parameters of the spindle motor based on the temperature of the VCM, wherein the spin-up parameters comprise at least one of:

a. spin-up current;

b. spin-up voltage; and

c. commutation time.

2. (Previously Presented) The disk drive of claim 1, wherein the temperature of the VCM is determined by a resistance of a coil of the VCM.

3. (Previously Presented) The disk drive of claim 1, further comprising:

a measurement circuit to measure a resistance of a coil of the VCM in order to determine the temperature of a coil of the VCM, the temperature determination being provided to the processor.

4. (Previously Presented) The disk drive of claim 1, further comprising:

a device to measure a resistance of a coil of the VCM in order to determine the temperature of the coil, the resistance measurement being provided to the processor.

5-6. (Cancelled)

7. (Previously Presented) The hard disk drive of claim 1, wherein the processor provides a signal to turn off the spindle motor if the spindle motor speed has not reached an operating spin-rate after a period of time, wherein the period of time is increased with a decrease in the temperature of the VCM.

8. (Currently Amended) A hard disk drive comprising:

a voice control motor (VCM) having a coil winding;

a spindle motor; and

a spindle motor control circuit ~~measurement~~ circuit coupled to the VCM to measure a resistance of the VCM coil winding and provide a temperature estimate based on the measured resistance, the measurement circuit further providing a signal to vary the rate of ~~to control~~ spin-up for the spindle motor based on the temperature estimate.

9. (Previously Presented) The hard disk drive of claim 8, wherein a time for the spin-up of the spindle motor to reach an operating spin-rate is increased with a decrease in the temperature estimate.

10. (Original) The hard disk drive of claim 8, wherein the spindle motor is turned off if the spindle motor speed has not reached an operating spin-rate after a period of time, wherein the period of time is increased with a decrease in the temperature estimate.

11. (Currently Amended) The hard disk dive of claim 8, wherein the signal to vary the rate of ~~control of~~ spin-up for the spindle motor ~~comprises controlling~~ varies the rate of at least one of the following until the spindle motor reaches a desired operation speed:

a. spin-up time;

b. spin-up current; and

c. spin-up voltage~~; and~~

~~d. commutation time~~.

12. (Currently Amended) In a disk drive with a voice coil motor (VCM) and a spindle motor, the improvement comprising:

means for determining a temperature of the VCM; and

means for ~~determining~~ sending a signal to vary spin-up parameters for the spindle motor based on the temperature of the VCM, wherein the spin-up parameters comprise at least one of the following:

a. spin-up current;

b. spin-up voltage; and

c. commutation time.

13. (Original) The disk drive of claim 12, wherein the means for determining temperature comprises a processor coupled to a coil winding of the VCM to measure resistance of the coil.

14. (Original) The disk drive of claim 12, wherein the means for determining temperature comprises a temperature measurement circuit coupled to a coil winding of the VCM to measure resistance of the coil.

15. (Currently Amended) The disk drive of claim 12, wherein the means for sending a signal to vary ~~determining~~ spin-up parameters comprises a spindle motor controller.

16. (Currently Amended) The disk drive of claim 12, wherein the means for sending a signal to vary ~~determining~~ spin-up parameters comprises a processor which provides control code to a spindle motor controller.

17. (Cancelled)

18. (Previously Presented) The hard disk drive of claim 12, further comprising means for turning off the spindle motor if spindle motor speed has not reached an operating spin-rate after a period of time, wherein the period of time is increased with a decrease in the temperature of the VCM.

19-24. (Cancelled)

25. (Currently Amended) A ~~The~~ disk drive ~~of claim 24, further~~ comprising:

a rotatable disk;

an actuator that supports a transducer;

a voice control motor (VCM) including a coil winding configured to receive a signal to move the actuator so that the transducer is moved relative to the disk;

a spindle motor having a plurality of windings and a rotor rotatable at an operating spin-rate during an operation mode of the disk drive;

a spindle motor driver connected to apply winding currents across a combination of the spindle motor windings, and to receive a speed signal to enable measurement of spindle motor speed; and

a processor coupled to the VCM to apply a signal to measure a resistance of the VCM coil winding and provide a temperature estimate based on the measured resistance, the processor further coupled to receive the speed signal enabling measurement of the spindle motor speed, the processor providing a signal to the spindle motor driver to turn off the spindle motor if the spindle motor speed has not reached the operating spin-rate after a period of time, wherein the period of time is increased with a decrease in the temperature estimate provided from the processor; and

a spindle motor controller coupling the processor to the spindle motor driver, wherein the spindle motor driver applies the winding currents to generate torque on the rotor to cause movement of the spindle motor, and wherein the spindle motor controller provides a signal to control a magnitude of the winding currents applied to increase the torque during startup corresponding to the decrease in the temperature estimate provided from the processor.

26. (Currently Amended) A ~~The~~ disk drive ~~of claim 24, further~~ comprising:

a rotatable disk;

an actuator that supports a transducer;

a voice control motor (VCM) including a coil winding configured to receive a signal to move the actuator so that the transducer is moved relative to the disk;

a spindle motor having a plurality of windings and a rotor rotatable at an operating spin-rate during an operation mode of the disk drive;

a spindle motor driver connected to apply winding currents across a combination of the spindle motor windings, and to receive a speed signal to enable measurement of spindle motor speed; and

a processor coupled to the VCM to apply a signal to measure a resistance of the VCM coil winding and provide a temperature estimate based on the measured resistance, the processor further coupled to receive the speed signal enabling measurement of the spindle motor speed, the processor providing a signal to the spindle motor driver to turn off the spindle motor if the spindle motor speed has not reached the operating spin-rate after a period of time, wherein the period of time is increased with a decrease in the temperature estimate provided from the processor; and

a spindle motor controller coupling the processor to the spindle motor driver, the spindle motor controller configured to identify a sequence of commutation states and send commutation voltage control signals to the spindle motor driver to apply voltages across a selected combination of the windings of the spindle motor to cause the sequence of commutation states resulting in torque on the rotor to cause a desired movement of the spindle motor, wherein the spindle motor controller further provides a series of commutation clock pulses to advance the spindle motor driver between commutation states, and wherein

the spindle motor controller controls timing of the commutation clock pulses to increase the torque applied during startup corresponding to the decrease in the temperature estimate provided by the processor.

27. (Previously presented) The disk drive of claim 25, wherein the spindle motor controller is configured to identify a sequence of commutation states and send commutation voltage control signals to the spindle motor driver to apply voltages across a selected combination of the windings of the spindle motor to cause the sequence of commutation states resulting in torque on the rotor to cause a desired movement of the spindle motor, wherein the spindle motor controller further provides a series of commutation clock pulses to advance the spindle motor driver between commutation states, and wherein the spindle motor controller controls timing of the commutation clock pulses to increase the torque applied during startup corresponding to the decrease in the temperature estimate provided by the processor.

28. (Currently Amended) The disk drive of claim 25 ~~24~~, wherein the signal applied to measure the resistance of the VCM coil winding is a set voltage, and the resistance is determined from the resulting current received from the VCM coil winding.

29. (Currently Amended) The disk drive of claim 25 ~~24~~, wherein the signal applied to measure the resistance of the VCM coil winding is a set current, and the resistance is determined from the resulting voltage across the VCM coil winding.

30. (Currently Amended) The disk drive of claim 25 ~~24~~, further comprising a memory connected with the processor, wherein processor readable code is stored in the memory the code being readable to cause the processor to apply the signal to measure the resistance of the VCM coil winding during startup, and to determine the temperature from a table of values stored in the memory with temperature corresponding to measured resistance.

31. (Currently Amended) The disk drive of claim 25 ~~24~~, further comprising a memory connected with the processor, wherein processor readable code is stored in the memory the code being readable to the processor to apply the signal to measure the resistance of the VCM coil winding during startup, and to determine the temperature based on a calculation using the measured resistance.

32. (Previously Presented) A disk drive comprising:

a rotatable disk;

a transducer;

an actuator that supports the transducer;

a voice control motor (VCM) connected to the actuator, the VCM including a coil winding configured to receive a signal to move the actuator so that the transducer is moved relative to the disk;

a processor coupled to the VCM to apply a signal to measure a resistance of the VCM coil winding, and to provide a temperature estimate based on the measured resistance;

a spindle motor having a plurality of windings and a rotor rotatable at an operating spin-rate during an operation mode of the disk drive;

a spindle motor driver connected to apply winding currents across a combination of the spindle motor windings; and

a spindle motor controller coupling the processor to the spindle motor driver, wherein the spindle motor driver applies the winding currents to generate torque on the rotor to cause movement of the spindle motor, and wherein the spindle motor controller provides a signal to control a magnitude of the winding voltages applied to increase the torque applied during startup corresponding to a decrease in the temperature estimate provided from the processor.

33. (Previously Presented) The disk drive of claim 32, wherein the spindle motor controller is configured to identify a sequence of commutation states and send a signal to the spindle motor driver to apply voltages across a selected combination of the windings of the spindle motor to cause the sequence of commutation states resulting in torque on the rotor to cause a desired movement of the spindle motor, wherein the spindle motor controller further provides a series of commutation clock pulses to advance the spindle motor driver between commutation states, and wherein the spindle motor controller controls timing of the commutation clock pulses to increase the torque applied during startup corresponding to the decrease in the temperature estimate provided by the processor.

34. (Original) A disk drive comprising:

a rotatable disk;

a transducer;

an actuator that supports the transducer;

a voice control motor (VCM) connected to the actuator, the VCM including a coil winding configured to receive a signal to move the actuator so that the transducer is moved relative to the disk;

a processor coupled to the VCM to apply a signal to measure a resistance of the VCM coil winding, and to provide a temperature estimate based on the measured resistance;

a spindle motor having a plurality of windings and a rotor rotatable at an operating spin-rate during an operation mode of the disk drive;

a spindle motor driver connected to apply winding voltages across a combination of the spindle motor windings; and

a spindle motor controller coupling the processor to the spindle motor driver, the spindle motor controller configured to identify a sequence of commutation states and send a signal to the spindle motor driver to apply voltages across a selected combination of the windings of the spindle motor to cause the sequence of commutation states resulting in torque on the rotor to cause a desired movement of the spindle motor, wherein the spindle motor controller further provides a series of commutation clock pulses to advance the spindle motor driver between commutation states, and wherein the spindle motor controller controls timing of the commutation clock pulses to increase the torque applied during startup corresponding to a decrease in the temperature estimate provided by the processor.

35. (Currently Amended) A disk drive comprising:

a rotatable disk;

a transducer;

an actuator that supports the transducer;

a voice control motor (VCM) connected to the actuator, the VCM including a coil winding configured to receive a signal to move the actuator so that the transducer is moved relative to the disk;

a processor coupled to the VCM to apply a signal to measure the resistance of the VCM coil winding, and to provide a temperature estimate based on the measured resistance;

a spindle motor having a plurality of coil windings and a rotor rotatable at an operating spin-rate during an operation mode of the disk drive; and

a spindle motor control means for receiving the temperature estimate from the processor and for providing a signal to the coil windings to vary the spin-rate ~~control operation~~ of the spindle motor during startup based on the temperature estimate.